

Lara Lebedinski  
University of Vienna  
Department of Sociology  
Institute of Economic Sciences  
Belgrade

Dejana Pavlović  
Institute of Economic Sciences  
Belgrade

# PROFESSIONAL TRAINEESHIP PROGRAMME AS A TOOL FACILITATING PARTICIPATION OF UNEMPLOYED YOUTH IN THE LABOUR MARKET: CASE STUDY OF THE REPUBLIC OF SERBIA

Program stručne prakse kao podrška nezaposlenim mladima u učešću na tržištu rada – studija slučaja Republike Srbije

## Abstract

Active labour market policies (ALMPs) aim to increase employment mainly targeting vulnerable groups as beneficiaries – long-term unemployed, youth, women, people with disabilities, Roma, etc. The prevalence of ALMPs and their intensity vary from country to country as determined by available financial resources, targeted beneficiaries' characteristics as well as the labour market characteristics. The objective of this paper is to examine the 12-month Professional Traineeship Programme (PTP) implemented by the National Employment Service (NES) of the Republic of Serbia. The programme was conducted from 2017 to 2018 assigning 9,561 participants to workplace training based on their educational background with a view to easing the transition from education to work. Our analysis illustrates the characteristics and labour market outcomes of the programme's participants. Every third participant got employed in the company after completing the programme, and after one year every second participant was employed (in the same company or elsewhere). We find that those who participated in the programme in the public sector were somewhat less likely to gain employment a year after its completion. Moreover, women were more likely to be employed one year after finishing the traineeship as well as those who were better educated and those who lived in more economically developed regions. Gender, education level and one's regional background are therefore found to be important correlates of success in securing employment when young people enter the labour market following education.

**Keywords:** *professional traineeship programme, Serbia, unemployment, youth*

## Sažetak

Aktivne politike tržišta rada (APTR) imaju za cilj povećanje zaposlenosti i uglavnom su fokusirane na ranjive kategorije na tržištu rada, kao što su dugoročno nezaposleni, mladi, žene, osobe sa invaliditetom, Romi i dr. Primena i intenzitet mera varira od zemlje do zemlje, ali i od visine izdvojenih finansijskih sredstava, kao i od karakteristika korisnika i karakteristika tržišta rada. Cilj ovog rada je da se ispita uspeh dvanaestomesečnog programa stručne prakse koji je implementiran 2017. i 2018. godine od strane Nacionalne službe za zapošljavanje Republike Srbije. Ukupno 9.561 polaznik je učestvovao u programu i to isključivo u oblastima njihovog obrazovanja. Takođe, program je imao za cilj da olakša učesnicima tranzicioni period od škole do posla. U radu su prezentovani nalazi o karakteristikama i ishodima na tržištu rada učesnika programa stručne prakse. Svaki treći ispitanik se zaposlio u firmi u kojoj je radio praksu, a nakon godinu dana svaki drugi ispitanik je bio zaposlen (u istoj ili drugoj firmi). Utvrđeno je da su oni koji su učestvovali u programu u javnom sektoru imali nešto manje šanse da se zaposle godinu dana nakon završetka programa u odnosu na učesnike iz privatnog sektora. Takođe, rezultati pokazuju da je veća verovatnoća da će žene imati zaposlenje godinu dana nakon završetka programa, kao i da su učesnici sa višim nivoom obrazovanja i oni koji žive u ekonomski razvijenijim regionima imali bolje šanse za zaposlenje. Od grupe faktora koje smo analizirali u radu, rezultati pokazuju da pol, obrazovanje i region najviše koreliraju sa uspehom pri ulasku mladih na tržište rada.

**Cljučne reči:** *program stručne prakse, Srbija, nezaposlenost, mladi*

## Introduction

Active labour market policies and programmes (ALMPs) are a set of policies used by governments with a goal to enhance the labour market opportunities of job seekers and improving the matching process between job seekers and employers. While ALMPs aim to support all job seekers who need help, vulnerable job seekers such as long-term unemployed, low-educated, youth, women, Roma and persons with disabilities, etc., constitute important target groups of these policies. The success of an ALMP and its impact on the beneficiaries depend on how well the measures have been defined and then implemented. Governments have limited resources to invest in ALMP measures, and as a consequence, their implementation should be monitored regularly and ineffective measures should be eliminated or redesigned [12]. This is especially the case for Serbia where funds are limited and only those individuals most in need can be supported with more intensive ALMPs.

This paper examines a vocational training programme, the Professional Traineeship Programme (on-the-job training programme) implemented by the Serbian National Employment Service in 2017 and 2018. The main aim of the programme was to provide on-the-job training to unemployed persons and support them in their path from education to work. This paper presents the findings on characteristics and labour market outcomes of the programme's participants. In line with the current research on employment, our paper uses administrative data from the National Employment Service (NES) of the Republic of Serbia. Evaluating labour market policy programmes and measures using administrative data has become increasingly a focus of research. Such evaluations are used to provide guidance to decision makers on improving employment policies [4], [13]. Both private and public sector employers implemented the programme, however, 30% of the participants at most could be placed in the public sector. In order to be eligible for the 2017 NES programme, a participant had to be up to 30 years of age; for the 2018 programme, all unemployed persons regardless of age were eligible to participate. A group of authors summarising 37 studies evaluating active employment policy measures in

the EU concluded that such measures have a significant positive impact on youth when formal training, job market training or alternative training are utilised to integrate unemployed youth into the labour market [1].

In this paper we analyse the largest ALMP targeting youth in Serbia: the Professional Traineeship Programme. We rely on both administrative data on the socio-economic background and the labour market history of participants as well as survey data with a subsample of the programme's participants. While administrative data give a clear overview on the formal employment trajectories of participants, the survey data serve to provide descriptive information on the programme participants' experience. Programme participants were on average 26 years old, higher educated and were more frequently females than males. Prior to entering the programme, participants were, on average, registered unemployed for a year. After finishing the programme, every third participant stayed with the company where they did the traineeship. 180 days after finishing the programme, 38.7% of participants were employed and this share rose to 47.6% after 365 days, i.e. one year. The most relevant correlates for the success in the programme were female gender, previous work experience and geographical region. The employed participants most frequently had a fixed-term contract. The results from the satisfaction survey with participants reveal that they believe that the programme helped them to acquire knowledge and skills; they reported that they were well received in the companies and supported throughout the traineeship. Almost all participants would recommend the programme. Most participants who sit the professional exam were successful, i.e. they passed the exam. Finally, there are some differences between participants in the public and the private sector. A larger share of public sector participants entered the traineeship because they needed work experience in order to sit the professional license exam. Public sector trainees were more educated, but had a lower employment rate. These findings do not speak against the programme in the public sector, they rather underline the restrictive regulation of hiring new employees in the public sector. Overall, the results of this study show that the programme is successful both in the public and in the private sector and that it is very

important for both sectors. Some professions in the public sector require a professional licence which in turn can only be gained with work experience, and the Professional Traineeship Programme helps graduates to fill this gap. On the other hand, schools and universities do not prepare sufficiently their graduates for the working life, and in the private sector the programme is used as a transition from school to independent work. The programme should be further promoted among companies in the private sector as it is a cost-effective mechanism for screening potential employees and helping young people transition to their full working capacity.

The paper proceeds as follows. Section 2 gives an overview of the literature, sections 3 and 4 describe the programme and provide descriptive statistics. Section 5 elaborates the empirical methodology and presents the results. Finally, section 6 concludes and discusses the findings.

## Literature review

This paper focuses on a specific type of ALMP, a vocational training programme offered by the National Employment Service. There exist a large number of ALMPs and they can be grouped into 4 large categories: (1) job search assistance, (2) job market trainings, (3) private sector employment incentives and (4) public sector employment incentives [8]. Job search assistance programmes have the largest target base, i.e. all individuals registered with the public unemployment service benefit from this type of programmes. Their goal is to help job seekers increase their job search effort so that their job search is more efficient and the quality of the subsequent job match is improved. There are different subtypes of job search assistance programmes: (a) job search training, (b) counselling, (c) monitoring and (d) job clubs. A job search assistance programme can be composed of one or a combination of the four subtypes. With regard to effectiveness, job search assistance programmes have large short-term impacts, but in the long term these impacts do not persist. Job market trainings include any type of training aiming to increase the human capital, and they can be classified into the following 5 subtypes:

(a) classroom vocational/technical training, (b) work practice (on-the-job training), (c) basic skills training, (d) life skills training and (e) job insertion. Job market skills trainings have smaller short-term impacts, but in the medium to long term the impacts are positive. Turning now to the private sector employment incentives, these programmes and measures include subsidies for employment or self-employment. The main purpose of the private sector employment schemes is to improve the matching process and raise the labour demand. Similar to training programmes, these schemes have only minor impacts in the short term, but their positive impacts are evident in the long term. Finally, public sector employment schemes are direct temporary employment schemes in the private sector. Public works are the most prominent type of public sector employment scheme, however, any other activities that produce public goods or services would fall into this group. These schemes, in most cases, target the most disadvantaged individuals and in some cases they even have the role of a safety net. In contrast to the other three types of ALMPs, public sector employment incentives do not have a positive impact neither in the short nor in the long run [2].

When looking at the effectiveness of an ALMP, it is important to consider the target group as the impacts of ALMPs are often heterogeneous. Kluge et al. [8] studied 113 interventions targeting youth in different countries, and their main finding is that entrepreneurship promotion and skills training have a positive impact on employment and earnings of youth. In contrast, the impact of employment services and subsidised employment is generally small and insignificant. The authors emphasise that impacts of these programmes are larger in low- and middle-income countries compared to high-income countries. The available evidence further suggests that programmes targeting disadvantaged youth are particularly effective. Focusing exclusively on active labour market policies in Europe, Caliendo and Schmidl [1] highlight that the evidence is only partly promising. Only job search assistance has overwhelmingly positive results, while training and wage subsidies have mixed effects and the impact estimates of public work programmes are in line with the literature, i.e., they even have a negative impact.

Kluve et al. [9] studied the same group of interventions as in Kluve et al. [10], emphasising that design and delivery are more important than the intervention type. They further find that bundling services is more effective than implementing single measures. Profiling of beneficiaries and individualized follow-up systems have reportedly shown positive impacts. Finally, the authors stress that long-term impacts are often larger in magnitude than short-term impacts and advocate for long-term evaluations of programmes.

There are numerous policy evaluations of different labour market trainings in the Western Balkans. However, one programme in Croatia is similar to the programme that we study, and we summarise some of its relevant findings. Croatian Employment Service [6] conducted an analysis of an on-the-job training (traineeship) targeting skilled youth; this programme was implemented from 2014 to 2015. The findings on the programme are mainly based on results from the survey conducted with participants and employers. Similar to Serbia, participants attended this programme to acquire experience required for getting a professional licence (e.g., teacher licence, lawyer licence, etc.). Two-thirds of participants had no previous work experience prior to joining the programme, while for those who did possess experience, the work experience was not related to their field of study. The participants stated that the main reason for their participation in the programme was to improve their working skills and get the practical experience in order to fulfil the requirements for the professional licence. On the other hand, employers reported that participants did not have practical skills and they saw the programme as a good transition into the professional world.

There are a number of different studies of ALMPs in Serbia; however, one specific study was conducted to evaluate the Professional Traineeship Programme. According to the study by Marjanović et al. [11], which uses a quasi-experimental setting, the Professional Traineeship Programme did not have a positive impact neither on employment nor on wages. Using similar quasi-experimental settings, other ALMPs implemented by the National Employment Service such as training upon request of an employer, job market training, acquisition

of practical knowledge were found to have some positive impacts [11], [7].

## Description of the programme

This paper studies the 12-month Professional Traineeship Programme (PTP) implemented by the National Employment Service in Serbia. In particular, we analyse the participants of this programme in 2017 and 2018. The aim of the programme was to ease the transition from education to work and train participants for their respective profession, i.e. the profession that they have studied for. It targeted private sector employers including 30% of public sector employers at most (in particular restricted to the fields of health, education and social protection). In Kosovo and Metohija and less developed municipalities there were no restrictions with regard to the public sector and more participants could be placed there. The age limit for participants in 2017 was 30, while in 2018 there was no explicit age limit, but most participants were still aged up to 30 years. Participants receive a remuneration ranging from 12,000 RSD to 14,000 RSD (100 EUR to 117 EUR). Many participants use this programme as an opportunity to acquire necessary working experience which is a precondition for getting a professional licence (such as teacher license, lawyer licence, doctor licence, etc.).

## Descriptive statistics

For the purpose of this study, we use administrative data from the National Employment Service (NES) of the Republic of Serbia. This dataset contains data on socio-demographic characteristics of participants and their labour market history, i.e. their employment and unemployment spells. We supplement the administrative data with a survey that we administered to a subsample of participants.

The total number of programme participants in 2017 and 2018 was 9,561.<sup>1</sup> We do not report the differences between years in a separate table as they are not explored in this study, but we do summarise them briefly here.<sup>2</sup>

1 In 2017 there were 4,072 participants, while in 2018 there were 5,489.

2 Complete table available upon request.

There are no differences in terms of gender between the two years, however, the average age of participants in 2018 was half a year older than in 2017, and the 2018 participants were more educated, in particular, they had a higher share of tertiary education (level VII professional qualification). There are significant differences with regard to field of education. In 2018, there was a higher share of participants from the field of economics, law and administration and a smaller share in a number of other

fields (e.g. agricultural, food production and processing; mechanical engineering and metal processing; electrical engineering; trade, hotel and tourism management; social sciences; health, pharmacy and social protection). There are no statistically significant differences in terms of participation of vulnerable groups or with regard to regional distribution.

The socio-demographic characteristics both overall and by sector are reported in Table 1.

**Table 1: Descriptive statistics**

	Total	Private	Public	p-value
	N=9,561	N=6,073	N=3,488	
Female	66.4%	61.9%	74.2%	<0.001
Age (at entry)	26.0 (4.6)	25.8 (4.6)	26.4 (4.7)	<0.001
Education				<0.001
Professional qualification III	4.5%	7.1%	0.1%	
Professional qualification IV	26.1%	27.9%	22.9%	
Professional qualification V	0.0%	0.0%	0.0%	
Professional qualification VI-1	1.3%	1.2%	1.5%	
Professional qualification VI-2	11.0%	9.1%	14.4%	
Professional qualification VII-1	57.0%	54.7%	60.9%	
Professional qualification VII-2	0.1%	0.1%	0.1%	
Educational background (area)				<0.001
Agricultural, food production and processing	4.3%	6.4%	0.6%	
Forestry and timber processing	0.3%	0.4%	0.1%	
Geology, mining and metallurgy	0.1%	0.1%	0.0%	
Mechanical engineering and metal processing	2.5%	3.7%	0.4%	
Electrical engineering	2.6%	3.8%	0.4%	
Chemistry, non-metals and graphic arts	1.2%	1.6%	0.5%	
Textiles and leather industry	0.3%	0.4%	0.0%	
Geodesy and civil engineering	2.9%	4.4%	0.3%	
Transport/traffic	1.1%	1.4%	0.5%	
Trade, hotel and tourism management	4.4%	6.7%	0.3%	
Economics, law and administration	42.4%	56.1%	18.4%	
Education	9.6%	0.6%	25.3%	
Social sciences	6.3%	2.0%	14.0%	
Mathematics	3.7%	2.9%	5.0%	
Culture, arts and public relations	0.6%	0.5%	0.6%	
Health, pharmacy and social protection	14.7%	4.3%	32.9%	
Other	3.0%	4.5%	0.5%	
Vulnerable groups				
Persons with disabilities	0.6%	0.6%	0.7%	0.72
Recipients of social financial assistance	1.3%	1.1%	1.8%	0.003
Roma	0.4%	0.5%	0.3%	0.28
Region				<0.001
Belgrade	12.1%	12.6%	11.1%	
Vojvodina	18.1%	19.3%	16.0%	
Šumadija and Western Serbia	33.6%	36.7%	28.0%	
Southern and Eastern Serbia	29.1%	30.0%	27.6%	
Kosovo and Metohija	7.2%	1.4%	17.2%	

Note: For continuous variables the table shows the mean and the standard deviation in brackets.  $p < 0.1$  statistically significant at 10%,  $p < 0.05$  statistically significant at 5%,  $p < 0.01$  statistically significant at 1%. For binary and categorical variables we use the Pearson's chi-square test, and for continuous variables Student's t-test.  
Source: Authors' calculations based on administrative NES data for 2017 and 2018 on participants of the Professional Traineeship Programme.

The programme originally envisioned that 30% of all participants at most enrol in their traineeship in the public sector. However, based on the data, the number was slightly higher than originally planned. About 36% of trainees attended their traineeship in the public sector. Participants of the programme were predominantly women (66.4%). The participation of women was also found to be higher in the public sector (74.2%) than in the private sector (61.9%).

According to the results of descriptive statistics, the median age at entry in the programme was 25 in the private sector and 26 in the public sector. Out of the 4,067 participants from 2017, 197 (4.8%) were over the age of 30; in 2018, out of the 5,494 participants, 977 (19.6%) were over the age 30. The age limit had been expanded in 2017 to include participants over 30 years of age.

Regarding the level of education, more than half of the participants in both sectors (54.7% in private and 60.9% in public) completed a VII-1 level degree (i.e. master academic studies or vocational studies or integrated academic studies). The second largest category (total: 26.1% - private 27.9% and public 22.9%) holds a IV level degree (i.e. a four-year secondary education). Overall, participants attending the traineeship in the public sector have, on average, a higher level of education than participants from the private sector.

In this programme, 3 areas of education were predominant among the participants: 1) economics, law and administration; 2) education; and 3) health, pharmacy and social protection. However, there are statistically significant differences among programme participants in the private and public sectors. Participants in the private sector have more often as their educational background the field of economics, law and administration (56.1%), while all other sectors are represented by less than 10%. Those in the public sector have an educational background in the following three areas: 1) education; 2) health, pharmacy and social protection; and 3) economics, law and administration.

A total of 130 beneficiaries of social financial assistance (1.3%), 62 persons with disabilities and 39 persons of Roma ethnicity were included in PTP. The private sector included a total of 128 persons belonging to at least one of these three vulnerable groups, while the

public sector included 85 persons. Beneficiaries of social financial assistance are more often included in PTP with public sector employers.

Observed by regions, the PTP most often included persons from Šumadija and Western Serbia (33.6%) and Southern and Eastern Serbia (29.1%), while fewer participants were from the region of Vojvodina (18.1%), Belgrade (12.1%) and Kosovo and Metohija (7.2%). With the exception of Kosovo and Metohija, where the participants mostly did their traineeship in the public sector, in the other 4 regions, the participants of the programme were mostly with a private employer.

In Table 2, we show the labour market experience before and after the traineeship programme. Most participants were unemployed for roughly a year before entering the programme. In the year prior to entering the programme, they were registered unemployed for 198 days, while they were employed only a minor number of days (10 days). Among all participants, 27.8% stayed with the company where they did their traineeship programme with the average time until the first employment being 100 days. In the first year after the programme, trainees were employed on average for 99 days, while they were unemployed for 162 days. With regard to employment after 180 or 365 days, we find that 38.4% had employment after 180 days while this percentage increases to 47.6% after 365 days. Most frequently, participants had fixed-term contracts (64.6% among those employed after 180 days, and 62.1% among those employed after 365 days). Prior to entering the programme, trainees from private sector firms were in a somewhat better position than trainees from public sector firms. They were unemployed for a shorter period of time. However, when comparing the success of private and public sector trainees, the results suggest that private sector employees were more likely to stay in the company where they did their traineeship and they were more likely to be employed 180 days and 365 days after the traineeship. Not surprisingly, private sector employees had somewhat more favourable employment contracts than public sector employees. These differences between the two sectors, especially with respect to employment, are mainly driven by limitation imposed on the public sector to hire freely new employees.

## Empirical strategy and results

We now turn to the econometric analysis to estimate the probability of a participant being employed one year (i.e. 365 days) following the end of the programme. The calculation is based on the following general model:

$$employed_{365_i} = \alpha_0 + \alpha_1 public\_sector_i + \gamma X_i + \delta Y_i + \varepsilon_i$$

The outcome of the model is an indicator as to whether the person is employed 365 days after finishing the programme. This simple econometric model aims to capture which characteristics of the participant correlate with the probability of being employed one year following the programme completion.

The coefficient  $\alpha_1$  captures the correlation between traineeship in the public sector and employment. The coefficient  $\alpha_1$  is not interpretable as causal; rather, it is a correlation (or association) as there could be possible unobservables not captured by the model. In this model we

control background characteristics (such as socio-demographic characteristics and labour market experience) and thus, when comparing public and private sectors we control for socio-demographic characteristics of participants (gender, age, qualification level, being a member of a vulnerable group and region) as part of the vector  $X_1$  and for labour market experience (number of weeks employed in the year before entering the programme, number of weeks unemployed in the year before entering the programme and number of weeks unemployed) within the vector  $Y_1$ .

The quantitative analysis aims to estimate which determinants are associated with success in terms of job finding. The econometric analysis aims to determine which individual factors correlate with the employability of the participant of the traineeship programme.

Table 3 shows the marginal effects estimated in a probit model with the outcome of being employed 1 year after finishing the programme. Model 1 (column (1)) includes an indicator for the public sector and the

**Table 2: Labour market experience before and after the traineeship programme (TP)**

	Total H=8,275	Private H =5,191	Public H =3,084	p-value
<b>Before TP</b>				
Duration of unemployment before TP in days	351 (604)	319 (543)	403 (691)	<0.001
Number of days employed in the 365 days before TP	10 (45)	9 (43)	11 (49)	0.094
Number of days unemployed in the 365 days before TP	198 (133)	195 (130)	203 (138)	0.007
<b>After TP</b>				
=1 employed after the measure	27.8%	30.4%	23.3%	<0.001
Number of days before first employment (within 365 days)	100 (103)	88 (103)	122 (101)	<0.001
Number of days employed in the 365 days after TP	99 (134)	117 (144)	68 (108)	<0,001
Number of days unemployed in the 365 days after TP	162 (146)	146 (145)	187 (143)	<0.001
<b>180 days after completing TP</b>				
=1 employed	38.4%	42.1%	32.0%	<0.001
Duration of employment	109 (65)	121 (62)	82 (64)	<0.001
Contract type				<0.001
Fixed-term contract	64.6%	62.0%	70.5%	
Permanent contract	25.7%	29.6%	16.9%	
Services contract	6.0%	4.9%	8.5%	
Other	3.7%	3.5%	4.1%	
<b>365 days after completing TP</b>				
=1 employed	47.6%	50.7%	42.2%	<0.001
Duration of employment	196 (125)	217 (125)	154 (113)	<0.001
Type of employment				<0.001
Fixed-term contract	62.1%	58.1%	70.2%	
Permanent contract	28.6%	33.0%	19.8%	
Services contract	4.6%	3.8%	6.4%	
Other	4.6%	5.2%	3.5%	

Note: \*Multiple answers possible. For continuous variables the table shows the mean and the standard deviation in brackets.  $p < 0.1$  statistically significant at 10%,  $p < 0.05$  statistically significant at 5%,  $p < 0.01$  statistically significant at 1%. For binary and categorical variables we use the Pearson's chi-square test, and for continuous variables Student's t-test.

Source: Authors' calculations based on administrative NES and CROSO data for 2017 and 2018 on participants of the Professional Traineeship Programme.

year of participation. Model 2 (column (2)) includes the participants' socio-demographic characteristics such as gender, age and educational background. Model 3 shown in column (3) includes variables on the labour market status in the year prior to entering the programme. In model (4), in column 4, we add geographical controls to capture differences in local labour markets.

The results of model (1) suggest that those who carried out their training in the public sector were 7.6 percentage points (p.p.) less likely to be employed 365 days following the completion of their traineeship compared to those who did so in the private sector (42.9% in public sector to 50.5% in private sector). Adding other controls induces the coefficient to fall to 3.0 p.p. implying that some of these controls can explain the difference in employment between the public and private sector.

Region is a decisive factor in the ability to become employed following completion of traineeship. For instance, those who carried out their traineeship in Kosovo and Metohija found it difficult to gain employment. Compared

to participants from Belgrade, those who carried out their training in Kosovo and Metohija were 24.4 p.p. less likely to become employed. Considering that Belgrade is the economic centre of Serbia, it is surprising that participants from the regions of Vojvodina, Šumadija and Western Serbia as well as Southern and Eastern Serbia had a higher probability to be employed 365 days following completion of their traineeship. Compared to men, women had 2.9 p.p. better chances to become employed following their traineeship. On average, age was an important determinant, whereby each additional year successively reduced the probability of becoming employed by 0.3 p.p. Moreover, possessing prior workplace experience in the year preceding the traineeship increased the probability of employment by a successive 0.3 p.p. per week, while a week of unemployment reduced the chances successively by 0.1 p.p. per week.

Overall, the results in the empirical part suggest that trainees in the private sector were more likely to find employment, women were more likely to find employment

**Table 3: Main results – outcome: being employed 365 days after completing the programme**

	(1)	(2)	(3)	(4)
Public sector	-0.076*** (0.011)	-0.083*** (0.012)	-0.086*** (0.012)	-0.030** (0.012)
Year of participation	-0.050*** (0.011)	-0.049*** (0.011)	-0.049*** (0.011)	-0.047*** (0.011)
Female		0.041*** (0.012)	0.041*** (0.012)	0.029** (0.012)
Age		-0.004*** (0.001)	-0.002 (0.001)	-0.003** (0.001)
University or college		0.025* (0.013)	0.017 (0.013)	0.010 (0.013)
Length of unemployment before traineeship (in weeks)			-0.000*** (0.000)	-0.000 (0.000)
Number of weeks employed in the year prior to TP			0.004*** (0.001)	0.003*** (0.001)
Number of weeks unemployed in the year prior to TP			-0.001** (0.000)	-0.001* (0.000)
Vojvodina				0.164*** (0.021)
Šumadija and Western Serbia				0.125*** (0.019)
Southern and Eastern Serbia				0.068*** (0.019)
Kosovo and Metohija				-0.244*** (0.030)
Pseudo R2	0.0059	0.0077	0.0139	0.0398
Number of observations	8.108	8.108	7.982	7.982

Note: Reference categories: education - secondary school or less; region - Belgrade. Marginal effects are reported.

\* statistically significant at 10%; \*\* statistically significant at 5%; \* statistically significant at 1%.

Source: Authors' calculations based on administrative NES and CROSO data for 2017 and 2018 on participants of the Professional Traineeship Programme.

and more educated participants had a somewhat better chance for being employed after 365 days. However, the strongest correlate of success is the region, compared to Belgrade, participants from three other regions (Vojvodina, Šumadija and Western Serbia, Southern and Eastern Serbia) were more successful while participants from Kosovo had less success.

## Survey results

In order to shed some light on the participants' experience with PTP, we conducted a survey with a subsample of 1,014 participants (683 from private sector and 331 from public sector companies). Answering the question on the channel through which they found the traineeship, most respondents said that they had found it with the support of NES (31.1%), other frequent responses were that they had applied directly at the employer (31.6%), they had found the traineeship through personal contacts (19.0%) and that they had worked at the company before entering the traineeship (15.4%). Prior to entering the measure, most respondents answered that they did not receive any support from NES (52.3%). However, those who said that they received support from NES, reported that they received job search counselling (32.6%), support to enter PTP (24.3%), information on vacancies (19.2%) and counselling on education and trainings (16.9%). The main reason for participants to join the programme was to gain work experience (71.9%), other reasons include: traineeship required to sit the professional state exam (35.2%), financial compensation (32.7%), need to learn something new (23.3%) and possibility to get employed in the company. A large majority of participants reported that they were satisfied with the support from NES when entering the measure (86.4%) and during the measure (85.2%) and with the programme overall (93.0%). Participants gave very positive answers about the programme, they reported that the tasks assigned helped them acquire knowledge and skills (94.2%), they felt free to ask questions (94.5%), the mentor helped them improve their knowledge and skills (95.4%), they had a good relationship with the mentor (94.9%) and they improved their knowledge and skills during the programme (94.1%). Finally, almost all

participants would recommend the programme (94.7%). Among all participants, one-third (34.4%) passed the professional state exam, while among those who did not pass it, many reported that they were still preparing for it (29.2%). Other reasons for not sitting the professional state exam include answers such as that they did not know anything about a professional exam (26.1%) and that they did not need it in their current workplace (20.8%). Among participants who attended the professional exam, almost all participants succeeded (97.4%), and participants generally agreed that the knowledge and skills they acquired during the programme were helpful for the professional exam.

Some minor difference in responses between the private and public sector can be observed. Compared to the private companies, trainees in the public sector found their traineeship more frequently through direct employment and less frequently through personal contacts. Trainees in the public sector reported more frequently that they entered the traineeship scheme in order to get the necessary working experience for the professional exam. Additionally, trainees employed in the private sector worked more hours.

Overall, the survey results suggest that NES was to some degree active in recruiting the trainees, every third trainee found the traineeship through NES. Most participants entered the programme in order to get work experience. According to subjective indicators, participants were highly satisfied with the programme (see Table 4).

## Conclusion and discussion

In this paper, we study the largest programme of the National Employment Service of the Republic of Serbia targeting youth - Professional Traineeship Programme (PTP). The programme is attended somewhat more frequently by females than by males with the average age of participants being 26 years. Most participants of the programme have either a college or university education. The share of persons belonging to vulnerable groups is minor. The descriptive statistics suggest that the average participant was unemployed for one year before entering the programme. Following its completion, every third participant stayed with the company where he/she did

the traineeship. 180 days after finishing the programme, 38.4% of participants were employed, while 365 days after the programme this number rose to 47.6%. The majority of participants had a fixed-term contract after 180 and 365 days, but some participants did secure permanent contracts (28.6%). A satisfaction survey conducted with

participants after the programme revealed a large level of satisfaction with it. Overall, our findings speak in favour of the programme as it offers a very good opportunity for young people to get the first professional training in a real world environment and is a stepping stone towards regular employment. Similarly, the programme offers an

**Table 4: Responses of trainees about their experience with the programme**

	Total N=1,014	Private N=683	Public N=331	p-value.
How did you find the traineeship				<0.001
Worked at the company before traineeship	14.0%	13.3%	15.4%	
Personal contacts	25.7%	29.0%	19.0%	
Applied for the job advertisement	4.7%	5.4%	3.3%	
Direct application at the employer	23.0%	19.9%	29.3%	
Through the counsellor of the National Employment Service (NES)	31.5%	31.6%	31.1%	
Other	1.1%	0.7%	1.8%	
Support received from NES before entering the measure*:				
No support	52.3%	49.6%	57.8%	0.015
Job search counselling	30.7%	32.6%	26.8%	0.063
Information on vacancies	19.2%	20.2%	17.2%	0.26
Counselling on education and trainings	16.9%	17.9%	14.8%	0.21
Placement in education and trainings	7.8%	8.0%	7.4%	0.74
Support to enter the Professional Traineeship Programme	24.3%	26.4%	20.0%	0.028
Reason(s) to participate in the Programme*:				
Traineeship required for licence	35.2%	26.5%	53.0%	<0.001
Possibility to get employed in the company	10.6%	12.2%	7.3%	0.016
Good employment prospective	9.4%	9.4%	9.4%	0.98
Wanted to learn something new	23.3%	24.2%	21.5%	0.35
Wanted to gain work experience	71.9%	72.0%	71.8%	0.96
Financial compensation	32.7%	35.0%	28.2%	0.032
Satisfied with support from NES when entering the measures+	86.4%	86.5%	86.3%	0.91
Satisfied with support from NES during the measures+	85.2%	86.7%	82.2%	0.078
Satisfied with the programme+	93.0%	92.2%	94.6%	0.17
Number of hours worked in a week	38.0 (5.3)	39.1 (4.2)	35.8 (6.5)	<0.001
Tasks assigned during the programme contributed to the acquisition of knowledge and skills +	94.2%	93.5%	95.5%	0.22
Asked questions without feeling uncomfortable+	95.4%	94.0%	98.5%	0.001
Mentor helped to improve knowledge and skills+	93.0%	91.7%	95.7%	0.019
Good relationship with mentor+	94.9%	94.1%	96.6%	0.086
Improved knowledge and skills during the programme+	94.1%	93.5%	95.2%	0.31
Would recommend the programme+	94.7%	94.7%	94.5%	0.91
Finished	88.6%	88.0%	90.0%	0.33
Passed the professional exam	34.4%	25.8%	52.0%	<0.001
Reason for not passing the professional exam				<0.001
I have not attended sufficient number of trainings	6.7%	6.6%	7.1%	
I am still preparing for the exam	29.2%	23.7%	47.1%	
Not required at my current work	20.8%	21.9%	17.4%	
Did not know that there is a professional exam	26.1%	32.2%	6.5%	
Personal reasons	14.3%	12.5%	20.0%	
Other	2.9%	3.2%	1.9%	
Passed professional exam (conditional upon attending)	97.4%	95.3%	99.4%	0.018
Knowledge and skills acquired during the programme helpful for professional exam+	94.1%	95.2%	93.0%	0.41

\*Multiple answers possible. + Scale is 1 to 6, answers 4 to 6 are classified as yes. For continuous variables the table shows the mean and the standard deviation in brackets. p<0.1 statistically significant at 10%, p<0.05 statistically significant at 5%, p<0.01 statistically significant at 1%. For binary and categorical variables we use the Pearson's chi-square test, and for continuous variables Student's t-test.

Source: Survey with participants of the Professional Traineeship Programme in 2017 and 2018.

opportunity for companies to train labour market entrants at a relatively low cost. Due to data limitation we were not able to conduct an impact evaluation, however, this type of evaluation would further help understand the impact of the programme and it would help improve it.

## Acknowledgments

The research presented in this paper was funded by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia under the contract number 451-03-47/2023-01/200005.

## References

1. Caliendo, M., & Schmidl, R. (2016). Youth unemployment and active labour market policies in Europe. *IZA Journal of Labor Policy*, 5(1), 3-30.
2. Card, D., Kluge, J., & Weber, A. (2010). Active labour market policy evaluations: A meta-analysis. *The Economic Journal*, 120(548), F452-F477.
3. Card, D., Kluge, J., & Weber, A. (2018). What works? A meta-analysis of recent active labor market program evaluations. *Journal of the European Economic Association*, 16(3), 894-931.
4. d'Hombres, B., & Santangelo, G. (2019). Use of administrative data for counterfactual impact evaluation of active labour market policies in Europe: Country and time comparisons. In *Data-driven policy impact evaluation* (pp. 271-287). Springer, Cham.
5. European Commission. (2020). *European semester thematic factsheet active labour market policies*. Retrieved from [https://ec.europa.eu/info/sites/default/files/european-semester\\_thematic-factsheet\\_active-labour-market-policies\\_en\\_0.pdf](https://ec.europa.eu/info/sites/default/files/european-semester_thematic-factsheet_active-labour-market-policies_en_0.pdf)
6. Hrvatski zavod za zapošljavanje (Croatian Employment Service) (2016). *Evaluacija iskustava polaznika mentora i poslodavaca uključenih u SOR*. Retrieved from [https://www.hzz.hr/UserDocImages/FINALNI\\_IZVJESTAJ\\_Evaluacija\\_iskustava\\_polaznika\\_mentora\\_i\\_poslodavacauključenih\\_u\\_SOR.pdf](https://www.hzz.hr/UserDocImages/FINALNI_IZVJESTAJ_Evaluacija_iskustava_polaznika_mentora_i_poslodavacauključenih_u_SOR.pdf)
7. ILO (2015). *Active labour market programme impact assessment: The impact of three programmes implemented by the National Employment Service of the Republic of Serbia*. ILO DWT and Country Office for Central and Eastern Europe, Budapest, Hungary. Retrieved from [https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-budapest/documents/publication/wcms\\_384854.pdf](https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-budapest/documents/publication/wcms_384854.pdf)
8. Kluge, J., & Rani, U. (2016). *A review of the effectiveness of Active Labour Market Programmes with a focus on Latin America and the Caribbean*. Geneva: ILO.
9. Kluge, J., Puerto, S., Robalino, D., Romero, J. M., Rother, F., Stoeterau, J., ... & Witte, M. (2017). Interventions to improve the labour market outcomes of youth: A systematic review of training, entrepreneurship promotion, employment services and subsidized employment interventions. *Campbell Systematic Reviews*, 13(1), 1-288.
10. Kluge, J., Puerto, S., Robalino, D., Romero, J. M., Rother, F., Stöterau, J., ... & Witte, M. (2019). Do youth employment programs improve labor market outcomes? A quantitative review. *World Development*, 114, 237-253.
11. Marjanović D., Nojković A., Ognjanov G., Lebedinski L. & Aleksić D. (2016). *Evolution of youth Service package and the relevant programmes and measures funded from the Republic of Serbia budget and targeted at youth*. SIPRU, Belgrade, Serbia.
12. Martin, J.P. (2014). *Activation and active labour market policies in OECD countries: stylized facts and evidence on their effectiveness* (IZA Policy Paper, 84).
13. OECD (2020). *Impact evaluation of labour market policies through the use of linked administrative data*. OECD Publishing, Paris, France.



### Lara Lebedinski

is a postdoctoral researcher at the Department of Sociology at the University of Vienna. She holds a Ph.D. in Economics from Bocconi University, Italy (2012) and a M.Sc. in Development Economics and Policy Analysis from Manchester University (2007). From 2012 to 2014 Lara worked as a postdoctoral fellow at the Catholic University of Louvain, Belgium and from 2017 to 2022 at the Institute of Economic Sciences, Serbia. Her research covers topics related to human capital, labour economics and family economics. Her work has been published in journals such as *World Development*, *Economics of Education Review* and *Journal of Demographic Economics*.



### Dejana Pavlović

holds a Ph.D. in Labor Economics from the University of Belgrade, Faculty of Organizational Sciences in Management. Since June 2015, she has been working at the Institute of Economic Sciences, as a Research Associate. She has been involved in a plethora of projects bearing international and national importance. Moreover, she has attended numerous scientific conferences and has published several scientific research papers within the field of the youth labor market.